EXHIBIT TT

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR		ATTORNEY DOCKET NO.
08/879,241	06/19/97	HANDY	J	ONTO-105XX

LM41/0724
WEINGARTEN SCHURGIN GAGNEBIN AND HAYES
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EXAMINER	
HOMERE, J	
ART UNIT	**PAPER NUMBER**
2776	3

DATE MAILED: 07/24/98

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 08/879,241	Applicant(s) Pandit
	Examiner Homere	Group Art Unit 2776

☒ Responsive to communication(s) filed on *Jun 17, 1997*.

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *three* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *1-8* is/are pending in the application.

Of the above, claim(s) *none* is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-8* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). *2*

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) filed on 09/22/97 complies with the provisions of MPEP § 609. It has been placed in the application file. The information referred to therein has been considered as to the merits. (see attached form).

Drawings

2. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maloney et al. ('Maloney', hereinafter), US Patent no.5,701,453, in view of Hecht, US Patent no.5,778,375.

As to claim 1, Maloney substantially discloses the invention as claimed, including a relational database having data stored as physical database records in physical database tables partitioned into rows and columns (col.2, lines 58-60 et seq.) In particular, Maloney teaches the claimed step of "defining at least one logical table comprising a subset of columns from at least one of the physical tables" through the selection of pairs of tables from the physical database to thereby define logical relationships therebetween (col.2, lines 60-63 et seq.) Upon joining the two tables by selecting a field or column common to both tables, the logical relationship between the tables is stored in the relation database to thereby create a logical schema (col.2, lines 63-67 et seq.) With regards to the step of "designating at least one column of the logical table as a logical primary key", Maloney teaches a column name 'svwid' for uniquely identifying a logical schema (col.10, lines 39-41, et seq.). Additionally, regarding the step of "employing the at least one logical table and corresponding logical primary key to access data in physical tables in the relational database", Maloney details that a user can send a query from the logical table in order to retrieve desired data from the physical database (col.5, lines 31-39, et seq.). Maloney further indicates that entries in the column, identified by the unique name 'svwid', are matched with the values corresponding thereto (col.11, lines 29-33, et seq.)

From the cited portions above, the reader should duly notice that Maloney details an identifier 'svwid' for uniquely identifying a logical schema and for retrieving data from the physical database. Maloney does not particularly detail a primary key for uniquely identifying and retrieving a particular record in the database. However, Hecht discloses a database normalizing

system, wherein the primary key (210) in a denormalized table is used to access data in a relational database (col.3, lines 30-43, et seq.) It would have been obvious to one of ordinary skill in the art of data processing at the time the invention was made to combine the teachings of the cited references. Hecht's teaching of primary keys would have allowed users of Maloney's system to directly retrieve a particular record in the physical database from a logical table, as suggested by Hecht in column 1, lines 13-17, et seq).

As to claims 2-3, Maloney teaches a physical database (fig.2, item 14) which does not require join operations (denormalized table) in order to retrieve information therefrom (col.4, lines 51-52, et seq.) Maloney further details the selection of pairs of tables from the physical database to thereby define logical relationships therebetween (col.2, lines 60-63 et seq.) Maloney does not particularly detail the step of normalizing the denormalized physical table to define the logical table to thereby create foreign key relationships from a first table to a second table having a primary key. However, Hecht discloses a database normalizing system, wherein an unnormalized database (202) is normalized (302, 303) (col.3, lines 44- 50 et seq.) to thereby create foreign key relationships from a second table (302) to a first table (303) having a primary key (col.3, line 50- col.4, line 21). For instance, in figure 3, Department Number is a primary key in table 303, yet it is a foreign key in table 302. It would have been obvious to one of ordinary skill in the art of data processing at the time the invention was made to combine the teachings of the cited references. Hecht's teaching of normalization to create foreign key relationships from a second

table to a first table having a primary key would have allowed Maloney's system to save memory and minimize redundant data as suggested by Hecht in column 4, lines 21-26.

As to claim 4, Maloney details a master table (30) in the logical schema (12) that creates and maintains the relationships between the logical tables (col.6, line 61- col.7, line 6 et seq.)

As to claim 5, Maloney substantially discloses the invention as claimed, including a relational database having data stored as physical database records in physical database tables partitioned into rows and columns (col.2, lines 58-60 et seq.) In particular, Maloney teaches the claimed " integrator for defining at least one logical table comprising a subset of columns from at least one of the physical tables" through a logical schema (12) that defines the relationships between selected tables and column data in a relational database (col.4, lines 45-47). Maloney discloses the selection of pairs of tables from the physical database to thereby define logical relationships therebetween (col.2, lines 60-63 et seq.) Upon joining the two tables by selecting a field or column common to both tables, the logical relationship between the tables is stored in the relation database to thereby create a logical schema (col.2, lines 63-67 et seq.) With regards to the " integrator for designating at least one column of the logical table as a logical primary key", Maloney teaches a column name 'svwid' for uniquely identifying a logical schema (col.10, lines 39-41, et seq.). Additionally, regarding the " repository for employing the at least one logical table and corresponding logical primary key to access data in physical tables in the relational

database", Maloney details that a user can send a query from the logical table in order to retrieve desired data from the physical database (col.5, lines 31-39, et seq.) Maloney further indicates that entries in the column, identified by the unique name 'svwid', are matched with the values corresponding thereto (col.11, lines 29-33, et seq.)

From the cited portions above, the reader should duly notice that Maloney details an identifier 'svwid' for uniquely identifying a logical schema and for retrieving data from the physical database. Maloney does not particularly detail a primary key for uniquely identifying and retrieving a particular record in the database. However, Hecht discloses a database normalizing system, wherein the primary key (210) in a denormalized table is used to access data in a relational database (col.3, lines 30-43, et seq.) It would have been obvious to one of ordinary skill in the art of data processing at the time the invention was made to combine the teachings of the cited references. Hecht's teaching of primary keys would have allowed users of Maloney's system to directly retrieve a particular record in the physical database from a logical table, as suggested by Hecht in column 1, lines 13-17, et seq).

As to claims 6-7, Maloney teaches a physical database (fig.2, item 14) which does not require join operations (denormalized table) in order to retrieve information therefrom (col.4, lines 51-52, et seq.) Maloney further details the selection of pairs of tables from the physical database to thereby define logical relationships therebetween (col.2, lines 60-63 et seq.) Maloney does not particularly detail the 'normalization processor operative on the denormalized physical table to

define the logical table to thereby create foreign key relationships from a first table to a second table having a primary key. However, Hecht discloses a database normalizing system, wherein an unnormalized database (202) is normalized (302, 303) (col.3, lines 44- 50) to thereby create foreign key relationships from a second table (302) to a first table (303) having a primary key (col.3, line 50- col.4, line 21). For instance, in figure 3, Department Number is a primary key in table 303, yet it is a foreign key in table 302. It would have been obvious to one of ordinary skill in the art of data processing at the time the invention was made to combine the teachings of the cited references. Hecht's teaching of normalization to create foreign key relationships for a second table from primary keys a first table would have allowed Maloney's system to save memory and minimize redundant data as suggested by Hecht in column 4, lines 21-26.

As to claim 8, Maloney details a master table (30) in the logical schema (12) that creates and maintains the relationships between the logical tables (col.6, line 61- col.7, line 6 et seq.)

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please see attached PTO-892.

1. U.S. Patent no.5,734,887 issued to Kingberg et al.. on 03/31/98. The subject matter disclosed therein is pertinent to that of claims 1-8 (e.g. relational database, logical data access, physical table).

2. U.S. Patent no. 5,542,078, issued to Martelt et al. on 07/30/96. The subject matter disclosed therein is pertinent to that of claims 1-8 (e.g. relational DB, integration, object-oriented DB).

3. U.S. Patent no. 5,499,371, issued to Henninger on 03/12/96. The subject matter disclosed therein is pertinent to that of claims 1-8 (e.g. relational DB, mapping, object-oriented DB).

4. U.S. Patent no. 5,369,761, issued to Conley et al. on 11/29/94. The subject matter disclosed therein is pertinent to that of claims 1-8 (e.g. normalization, relational DB database).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean R. Homere whose telephone number is (703)-308-6647. The examiner can normally be reached on Monday-Friday from 08:30 a.m.-5:00 p.m.
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black, can be reached on Monday-Friday from 8:00 a.m. to 3:30 p.m. at (703)-305-9707.

Any response to this action should be mailed to: Commissioner of Patents and Trademarks Washington, D.C. 20231, **or faxed to:** (703) 308-9051, (for formal communications intended for entry), **Or:** (703) 305-9731 (for informal or draft communications, please label "PROPOSED" or "DRAFT"). Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist). The facsimile phone number for this group is (703) 308-5357.
Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-9600.

Jean R. Homere
Jean R. Homere
July 23, 1998